North East Linguistics Society

Volume 30 *Proceedings of the North East Linguistic Society 30 -- Volume One*

Article 7

2000

Interpreting A-Chains at the Interface

Cedric Boeckx
University of Connecticut

Interpreting A-Chains at the Interface*

Cedric Boeckx

University of Connecticut

1. Introduction

Chomsky 1993 gives convincing evidence in favor of reconstruction-as-copy-activation for A-bar movement, with complementary deletion in the Operator-variable sequence (chain). As for A-movement, he argues for the absence of reconstruction effects in general, and suggests that the copies left by A-movement, unlike those of A-bar movement, are ignored by interpretive mechanisms. I here reproduce the only really strong argument Chomsky gives in favor of not reconstructing into copies of A-movement. Chomsky revives the old observation that *every* cannot take scope under negation in (2). (Chomsky offers no explanation for why it can in (1).)

(1) (it seems that) everyone isn't there yet ($\forall >> \neg$; $\neg >> \forall$)
(2) everyone seems not to be there yet ($\forall >> \neg$; $*\neg >> \forall$)

Lasnik (1999) notes that the same absence of reconstruction is manifested in the case of object-raising. Lasnik motivates his claim on the basis of pseudogapping examples, which Lasnik 1995ff. takes to involve overt object raising.

---

* This paper has benefitted from comments and suggestions by Željko Bošković, Howard Lasnik, William Ladusaw, Gennaro Chierchia, Mats Rooth, Sandra Stjepanović, Koji Sugisaki, Nobu Miyoshi, Bosook Kang, and the audience at NELS 30, Rutgers. A more comprehensive version of this study is to be found in Boeckx 1999. I urge the reader to consult the latter since severe space restrictions prevented me from giving the full-fledged argument here.

NELS 30

(3) Mary proved every Mersenne number not to be prime, and John will every Fibbonacci number$_i$ [~~prove t_i not to be prime~~] ($\forall$ >> $\neg$/*$\neg$ >> $\forall$)

Lasnik also observes the absence of scope-reconstruction in subject-to-object/E(xceptional) C(ase) M(arking) contexts, which Lasnik and Saito 1991, based in part on previous work by Postal 1974, have shown to manifest overt raising to object position.

(4) John proved every defendant$_i$ [t_i not to be guilty] during his$_i$ trial ($\forall$ >> $\neg$; *$\neg$ >> $\forall$)

The above facts indeed seem to point to the lack of reconstruction with A-movement, but, though suggestive, the evidence is not overwhelming, and massive counterevidence pertaining to scope reconstruction ('Quantifier Lowering') can be found in the literature. Note, crucially, that Chomsky 1995 does not deny the existence of lowered readings. He argues that in such cases, the lowered reading of the A-moved element "could result from adjunction of the matrix quantifier to the lower IP (c-commanding the trace of raising and yielding a well-formed structure if the trace of quantifier lowering is deleted, along the lines of May's original proposal). But reconstruction in the A-chain does not take place, so it appears." (p. 327)

By contrast, Lasnik agrees with Hornstein 1995 that the theory would be more elegant if all reconstruction effects were handled by 'activation' of a copy, as in the case of A-bar movement, but unlike him, does not argue against Chomsky's claim that A-movement does not reconstruct. Apart from the object raising evidence above, Lasnik observes (5).

(5) Every coin is 3% likely to land heads ($\forall$ >> likely; *likely >> $\forall$)

Lasnik notes that the situation in (5) strongly biases the sentence toward the lowered reading (likely >> every), but that reading still is not possible. That is (according to Lasnik), (5) cannot be accurately paraphrased as "it is 3% likely that every coin will land heads."

Facts like these lead Lasnik to claim that even the process of literal lowering which Chomsky allows to capture the lowered reading in sentences like *a politician is likely to address John's constituency* is not available. For Lasnik, the apparent lowered reading of indefinite NPs stems from another source, viz. the vagueness of indefinites. In the same breath, Lasnik proposes that the absence of reconstruction with A-movement is explained by the hypothesis that A-movement does not leave a copy. In this, Lasnik differs also from Fox 1999a, who notes the absence of A-movement reconstruction, and proposes (p. 192) that A-movement (optionally) leaves a simple trace (t), not a copy. Fox's solution suffers from the same defect as Chomsky's in that it weakens the view that "there is no process of reconstruction" (Chomsky 1995). Also, it is not explanatory because it does not tell us why certain elements (A-bar elements) can leave a full-fledged copy, while others (A-elements) leave a simple trace, things could have just as well been the reverse. Finally, Fox's proposal violates the Inclusiveness Condition of Chomsky (1993; 1995), which bars the introduction of elements extraneous to the numeration in the course of the syntactic computation. While copies satisfies Inclusiveness, traces clearly don't. This, coupled with the hybridity Fox's system introduces into C_{HL}, seems to me to be sufficient reasons to disregard this alternative.

I won't question the technical aspect of Lasnik's analysis (such as the need to take θ-roles as features to render A-traces eliminable). Rather, I will examine his argument based on

failure of paraphrasability to motivate the absence of reconstruction with A-movement. I will show that Lasnik's cases are either inconclusive or incorrect, and that some A-movement reconstructs.

2. Quantifier Lowering (Lasnik 1998a;b vs. May 1977; 1985)

2.1. Paraphrasability

Recall that May's 1977 argument for A-movement reconstruction (Quantifier Lowering (QL)) is based on the paraphrasability of *a politician is likely to address John's constituency* as 'it is likely that some politician (or other) will address John's constituency.' Lasnik notes that many examples involving indefinites are not paraphrasable in this way. Some of Lasnik's examples are reproduced under (6)-(7).

(6) no large Mersenne number was proven to be prime (#it was proven that no large Mersenne number is prime)
(7) no one is certain to solve the problem (#it is certain that no one will solve the problem)

However, both *proven* and *certain* are quantificational elements of a quite distinct type from *seem*, *likely*, and other predicates standardly used to motivate QL. They are not epistemic predicates, which might explain why they do not allow for lowered readings since such readings have to do with epistemology ("having x in mind or not"). Once we move to epistemic predicates, lowered readings emerge.[1]

(8) someone from New York is guaranteed to win the NY lottery (it is guaranteed that someone from NY will win the lottery)
(9) no two people are likely to choose the same password (it is likely that no two people will choose the same password)

2.2. Indefinites

As the attentive reader will have noted already, there does not seem to be any case where the ambiguity is clearer or the tendency to interpret the raised NP below is stronger than with indefinites. The point is made by Lasnik on the basis of (5). Although the situation strongly biases the sentence (5) toward the lowered reading, that reading is still not possible. I will try to provide an explanation for the special behavior of indefinites. However, I would like to point out that one can find examples of what look like reconstruction effects with strong quantifiers having undergone A-movement.Thus, (10) (Mats Rooth, p.c.; attributing the example to Dorit Abusch) shows that a present tense in the raised subject can have a future interpretation, as if compositionally it were in the scope of the future-oriented raising

---

[1] Besides such cases, instances of trapping effects (May 1985, Lebeaux 1988, Fox 1999a, and Romero 1998) militate in favor of A-movement reconstruction.

(i) no one seems to anyone to be absent from class today (cf. 'no one seems to be absent from class today')

predicate.

(10) everybody who shows up is likely to be a psycholinguist

Note also that reconstruction is not limited to genuine indefinite descriptions, as the following examples involving negative and non-monotonic quantifiers make clear.

(11) nobody is believed to be in the reactor room
(12) exactly one person is likely to get an offer

To sum up, I have shown on the basis of carefully chosen examples that A-movement reconstruction does not exist.[2] I have not shown that lowered readings have to be analyzed as activation of a copy -- Chomsky's claim thus holds, but I have at least shown that one cannot deny the presence of lowered reading as Lasnik does. More than vagueness of indefinites is needed.

Having shown the need for A-movement reconstruction, one still has to account for the numerous cases where reconstruction is absent. In particular, one has to account for (i) the contrast we started with ((1)-(2)), (ii) the weak-vs.-strong quantifier asymmetry regarding reconstruction, and (iii) cases where reconstruction with an indefinite does not obtain ('someone hasn't arrived yet ($\exists >> \neg$; $*\neg >> \exists$)'). I deal with each issue in turn.

3. Partial negation

Let me address the issue of how it is that universal quantifiers can scope under clause-mate negation.

(13) $[_{TP}$ everyone $[_{T}$ isn't [there yet]]]

As mentioned above, this scope possibility is restricted (for most speakers) to universal quantifiers. This makes it implausible to try to argue for a reconstruction effect in this case (say, reconstruction to the VP-internal subject position à la Hornstein 1995). If this were the case, one would expect the process not to be sensitive to the universal nature of the reconstructed element. If anything, one would expect indefinites to pattern the same way. Here I would like to follow a suggestion by Richard Kayne and Paul Pietroski (p.c.) to the effect that the low reading of the universal is due to pragmatics. We know that lowered readings of subjects (in, say, *every boy kissed someone*) are, if possible at all, at least dispreferred (see Pica and Snyder 1994, and Martin and Uriagereka 1998 on that point). This is not the case in (13), where the low reading is easily accessible to most speakers. Thus, the felt 'oddness' of (13) might be due to Gricean maxims. Since the '$\forall >> \neg$' reading is true iff

---

[2] Besides such cases, one can also mention the well-known Belletti-Rizzi 1988 facts, and the *each*-data in Burzio 1981.

(i) Pictures of *himself* seem to *John* to be on sale
(ii) *One* translator *each* is likely to be assigned to the athletes

no one is there yet, one might expect a speaker who intended to utter words with these truth-conditions to utter the less strained 'no one is there yet.' Since the speaker of (13) used the odd expression, perhaps they did not intend to say that no one is there yet. In other words, what I would like to suggest is that discourse participants accommodate when they hear a sentence like (13). They expect a claim about *everyone*, not about *no one*. As a result, they allow negation to scope over the quantifier (this might be done by covert movement of negation in LF), whereby the utterance becomes more relevant/informative. One might think of accommodation as restricting the domain of quantification, which, as is well known, is much larger in the case of universals.

Having claimed that the low reading of the universal quantifier is the result of accommodation in simple cases, we now have to explain why the scoping over negation across clauses, as in (2), is disallowed. Obviously, pragmatics cannot be relevant here. So the absence of one reading in (2) must receive a syntactic explanation. What I would like to suggest is that the scope of negation can only extend to the most immediate T (This is, of course, reminiscent of the 'clause-boundedness' of QR). We know that there exists a rather strong connection between T and neg, as discussed by Laka 1990 and Zanuttini 1997, among others. Let us assume that negation indeed moves at LF as a last resort mechanism (accommodation). This puts negation-movement on a par with QR, and other 'semantic'operations discussed extensively in Fox (1995; 1999a,b). Fox argues that two mechanisms constrain LF-/semantically-motivated movement. One is the Scope Economy principle that says:

(14) Scope economy principle
An operation OP can apply if and only if it affects semantic interpretation (i.e., only if inverse scope and surface scope are semantically distinct)

The second is the familiar shortest move condition.

(15) An operation OP must move the affected element to the closest position in which it is interpretable

What I would like to suggest is that the contrast between (1) and (2) is the result of (14) and (15) when applied to Neg-raising. (14) accounts for (1). Accommodation triggers covert neg-raising. The relation between negation and Tense mentioned above restricts the scope of neg-raising. According to (15), negation can move to the closest target satisfying its interpretive needs. Assume that the target is T. From this it follows that negation cannot 'accommodate' across clauses. Successive-cyclic neg-raising would be an abstract case of superraising, as illustrated in (16).

(16) a. John seems [*t*' is *t* happy]
|___X____|____|
b. Everyone T-seems [*t*' T not to be *t* there yet]
|_____X_____|_____|

If tenable, the present analysis accounts not only for why only universal quantifiers are

affected by neg-raising (accommodation), but also for why the reading is lost across clauses. Note, though, that I have argued above that the '¬ >> every' reading does not arise by reconstruction of the A-moved element, but rather from neg-raising. This raises the question as to whether (1)-(2) tell us anything about A-movement reconstruction. I would like to argue that they do. If A-movement could reconstruct, then *everyone* in (2) could reconstruct into the intermediate embedded subject position, where negation could affect it (neg-raising would obey shortest move in this case). But we saw that such reading is unavailable, which argues against A-movement reconstruction in this case. This section, then, shows that Chomsky was right in claiming that (2) argues against A-movement reconstruction. This, combined with the above evidence that A-movement reconstructs, begs the question of what it is that forces strong quantifiers to take scope in their surface position.

4. Scope and Case

Chomsky claims that A-reconstruction does not take place in A-chains, but does not offer any explanation for why that is the case. We saw that Fox's claim that A-movement (optionally) leaves a simple trace, not a copy, is undesirable. As for Lasnik's claim that A-movement does not leave a trace/copy, it is untenable. The goal of this section is to offer a plausible reason for why in many cases A-movement fails to reconstruct. The starting point for my proposal is an observation Fox (1999a:193) attributes to I. Heim and D. Pesetsky, viz. that "the necessary stipulation about A-movement could be derived from an assumption that has an air of an explanation to it, namely, the assumption that copies must receive Case."

The distinction between A-traces and A-bar traces is familiar from the GB-literature, but it is hard to see why Case would be the relevant factor in allowing reconstruction. The oddity, however, disappears when we take Chomsky's 1995 claim seriously that Case is an uninterpretable feature. The proposal I would like to make is that Case checking sends the element to the interface for interpretation.[3] In other words, Case makes the element visible for interpretation. I mean the term 'visible' here much in the sense of Chomsky's 1986 visibility condition, where Case-checking makes an argument visible for theta-role assignment. I generalize the visibility condition and claim that Case-checking marks an element as interpretable, not just for thematic purposes, but also for notions like scope.

If correct, the claim just made explains why A-moved elements take scope in their surface, Case-checking position -- with one problem, though. Chomsky 1998 argues that Case/ϕ-features do not necessitate category raising to the surface position, but can be checked via long-distance matching (Agree, a reworking of feature-movement). If so, we can no longer maintain that scope is determined where Case is checked, Case now being eliminable in situ.

The problem disappears once we take other claims by Chomsky seriously. Chomsky 1995 distinguishes between checking and erasure: A feature can be checked, and yet remain accessible for further computational purposes. Once it is erased, it is no longer available to the syntax. Although Chomsky 1998 tries to eliminate the checking/deletion-erasure

[3] The proposal shares some common ground with recent work by Kitahara 1998, 1999.

distinction, the latter is maintained precisely in the case of Case. In Chomsky 1998, Case is said to make an element visible for Attraction. In the case of successive cyclic movement, Case has to remain available. I take it to mean that Case is expunged after the element has reached its final landing site (at least in the case of A-movement).

There is an interesting parallel to draw here between Scope freezing (no A-reconstruction), and Case-freezing, the generalization that once Case is checked, the element stays put (Lasnik 1995b, Chomsky 1995, Chomsky 1998). Put in different terms, (17) is to be equated with (18) (cf. (19)).

(17) every coin is 3% likely <every coin> to <every coin> land heads
(18) *John* is likely <John> to <John> be intelligent
(19) *John is likely <*John*> is intelligent: Hyperraising

The present proposal that ties scope interpretation and Case-checking (removal of the feature that made the element uninterpretable) allows A-movement to be much like A-bar movement in terms of the copy-theory. A-movement can leave a full copy, Case will prevent the interface from using members of the chain other than the head. Besides allowing us to maintain the copy theory in its simplest form (all movement leaves a full copy), this theory makes an interesting prediction: Although Case forces the head of the chain to be interpreted in the case of A-movement, it does not say anything about elements that are pied-piped under A-movement. Take the case of a relative clause complement or an *of*-phrase. It is standardly assumed that such elements check their Cases NP-internally, not after A-movement is completed. This means that such elements are not frozen in the final position occupied by the A-moved element; rather, they are accessible for interpretation upon merger. They are therefore expected to give rise to reconstruction/connectivity effects. Examples like (20) and (22) bear out that prediction.

(20) everybody who shows up is likely to be a psycholinguist
(21) everybody ~~who shows up~~ is likely <~~everybody~~ who shows up> to be <~~everybody who shows up~~> a psycholinguist
(22) pictures of himself frighten John
(23) pictures ~~of himself~~ frighten John <~~pictures~~ of himself>

5. Radical reconstruction

As we saw above, indefinites seem to stand on their own when it comes to A-movement reconstruction. In contrast to other quantifiers, indefinites appear to give rise to what one might call radical reconstruction, that is reconstruction of the head of the A-chain.

There are two questions to address in this case. One is how come indefinites do not exhibit freezing effects. The other is how to account for the lowered readings of indefinites, via copy-deletion, as in the case of reconstruction with A-bar movement, and partial A-movement reconstruction, or literal lowering as in Chomsky 1995, and, ultimately, May 1977.

In some sense, reconstruction with indefinites is different from other cases of

reconstruction in that other cases of reconstruction, be they instances of A-, or A-bar movement, always leave something in the head position of the chain they form. Thus, A-bar reconstruction leaves the Operator in SpecCP, while A-movement reconstruction is partial as well, as we saw in the previous section. The fact that reconstruction is total in the case of indefinites poses a problem for Heim and Kratzer's 1998 suggestion to treat movement as creating a derived predicate, with a lambda-abstract being formed.[4] The problem with radical reconstruction is that it would leave the Lambda-abstract unbound, violating the Proper Binding Condition (i.e., the requirement that traces must be bound).

The proposal I would like to make is based on a generalization that emerges from the data discussed so far. 'Lowerable' Quantifiers, that is, those subject to radical reconstruction, are those that can appear in *there*-sentences.

(24) a. someone from NY is likely to win the lottery
b. nobody is believed to be in the reactor room
c. exactly one person is likely to get an offer
d. *every coin is 3% likely to land heads

(25) a. there is someone in the garden
b. there is nobody in the garden
c. there is exactly one person in the garden
d. *there is everybody in the garden

I contend that the way to capture this generalization is to allow for a null counterpart of *there* to be inserted post-Spell-Out, in the covert component. A late insertion theory has already been put to good use in Bošković 1998 (see also Bošković and Lasnik 1999) in the realm of *wh*-movement. In particular, Bošković argues that the framework of Chomsky 1995 allows covert insertion of phonetically null elements. He claims that such an option is realized in the case of French interrogative clauses. Thus, French allows matrix C^0 to be inserted post Spell-Out, triggering LF *wh*-movement. I would like to argue in favor of a similar mechanism in the case of *there*, whose covert counterpart I represent as $there_{LF}$.

Suppose we allow $there_{LF}$ to be inserted on top of the raised indefinite (or other lowerable quantifiers, like negative and non-monotonic quantifiers). Insertion is allowed on grounds made clear in Bošković and Lasnik 1999, and Chomsky 1998, since insertion takes place at the IP-level (non-phase level). The function of $there_{LF}$ is to turn the overtly raised quantifier into an associate, and 'push it down' the tree, as it were, for purposes of interpretation. Insertion of $there_{LF}$ is what allows indefinites/lowerable quantifiers to undergo radical reconstruction. As is well-known from the vast literature on existential sentences, associate NPs obligatorily take narrow scope,[5] and resort to a somewhat different mechanism for Case-

[4] This view of movement has received considerable support from Sauerland 1998 and Nissenbaum 1998. I hasten to add that one need not reject the Principle of Inclusiveness (see above) if one adopts Heim and Kratzer's suggestion. One need not take the latter as applying in the syntax per se. It might be the way the interface translates syntactic movement, which is the view I will adopt here. Still, one should not allow for semantically-driven operations like quantifier movement that would ultimately run afoul of such an interface condition.

[5] On the parallelism between *there*-sentences and quantifier lowering, see Aoun 1982.

checking.[6] This, I claim, is what allows them not to be Case-frozen. Insertion of $there_{LF}$ also has the advantage of solving the Proper Binding Condition violation of radical reconstruction discussed above. $There_{LF}$ will act as a binder for the lambda-abstract by virtue of sharing features with the moved quantifier.[7]

As we can see, insertion of $there_{LF}$ allows us to explain the peculiar behavior of some quantifiers. The remaining question I would like to address is whether radical reconstruction amounts to activation of a lower copy, or literal lowering. Put schematically, which of (26a) or (26b) is the correct representation of the lowered reading of *someone from NY*.

(26) a. [there ~~[someone from NY]~~] is likely <someone from NY> to win the lottery
b. [there [someone from NY]] is likely to win the lottery

6. Copy-deletion or Lowering

I would like to pursue the idea that insertion of $there_{LF}$ makes English really look like Icelandic at LF. As is well-known, Icelandic allows multiple subjects in overt syntax, as illustrated in the so-called Transitive Expletive Construction (TEC).

(27) Það hafa sennilega margir stúdentar lesið bókina
there have probably many students read the.book
'Many students have probably read the book'
(Bobaljik and Jonas 1996:212 (20))

Chomsky (1995:343; 1999) observes that, contrary to what had been thought, similar multiple subject constructions might be available in English. Some examples are given in (28).

(28) a. there entered the room a man from England
b. there hit the stands a new journal

Chomsky notes that such constructions require 'heavy,' arguably extraposed subjects ('associates'), and speculates that the difference between English and Icelandic might just be a PF-phenomenon, forcing themes to appear at the edge in English, but not in Icelandic (due to V2-effects). Chomsky further argues that the correct representation of TECs is one involving multiple specifiers of TP, separated by the verb at PF.

If I am correct in (26), $there_{LF}$ creates a configuration similar to (28a). I would push the parallel further and say that much like overt multiple subject constructions in English force extraposition of the subject at PF, $there_{LF}$ forces lowering (intraposition) of the relevant quantifier at LF. That is, I am claiming that the lowered reading of quantifiers comes about

---

[6] The precise mechanism associate NPs make use of to check their Cases is immaterial for present purposes. Long-distance agreement, feature-movement, or partitive Case are viable options.

[7] This solution is reminiscent of Williams's 1984 view on *there* as a scope marker.

by movement, in this case, literal reconstruction.

Interestingly, there seems to be some evidence favoring literal lowering (reconstruction) over activation of a lower copy. The evidence comes from intervention effects. Much like Pesetsky (to appear) takes the island-like effect in (29) to be indicative of movement of the *wh*-phrase *wo* in LF (following Beck 1996), so too I would like to claim that blocked reconstruction effects are a result of intervention effects.[8]

(29) a. *Wen hat niemand wo gesehen? German
who has nobody where seen
'Where did nobody see who?'
b. *Wen hat niemand wo gesehen?
|_____X____|

At first sight, one might take Trapping-effects to be such a case of intervention, favoring movement over the copy theory. However, trapping effects have been successfully analyzed under the copy-deletion mechanism (see Fox 1999a; Romero 1998), and appear inconclusive as far as the issue at hand is concerned. It is unclear why an anaphor would block movement, where by blocking I mean some effect akin to Relativized Minimality.

More revealing is the contrast in (30)-(31).

(30) a car seems to me to be parked at the corner (= it seems to me that there is a car ...)
(31) a car seems to every driver to be parked at the corner (=*it seems to every driver that there is a car ...)

In (30), the presence of a quantifier seems to force the high reading of the raised indefinite subject. I would like to claim that the quantifier blocks lowering of the subject. Under a copy-deletion view, it is unclear why the presence of a quantifier would block deletion of the higher copy of the subject. In a derivational framework like the one assumed here, the copy-deletion mechanism is blind to intervention effects (things are slightly different in a framework like Brody 1995). By contrast, it is natural to assume that the experiencer blocks lowering when it is of the same type (quantifier).[9] The same effect appears to be found with negation.

---

[8] The parallel between Beck-effects and unavailable readings due to constraints on quantifier movement has independently been made by Kyle Johnson (1998; class lectures Spring 1999).

[9] Bošković and Takahashi also argue for lowering operation in LF, but note that such operations appear not to be subject to Relativized Minimality. They argue that this is explained by taking the definition of Relativized Minimality literally. Relativized Minimality makes use of the concept c-command roughly, ("A blocks movement of B to C if A is of the same type as B and if A c-commands B"), which is irrelevant for lowering operations, hence the absence of Relativized Minimality effects. However, we just saw that QL is subject to Relativized Minimality. I would like to claim that the present position is more adequate than Bošković and Takahashi's. Boeckx (in review) provides a way of capturing the absence of Relativized Minimality effects in the cases Bošković and Takahashi discuss in a way consitent with the present view that lowering is subject to Relativized Minimality. All that needs to be done is revise Bošković and Takahashi's analysis slightly (for which, see Boeckx (in review)), and replace c-command by the older notion of 'in construction with' to formulate Relativized Minimality in the case of lowering.

(i) A node α is in construction with a node β iff the node γ directly dominating β also dominates α

(32) a man is likely **not** to win the lottery (∃ >> likely >> ¬/likely >> ∃ >> ¬/*likely >> ¬ >> ∃)

The account carries over to *someone hasn't arrived yet* (∃ >> ¬; *¬ >> ∃).

The present analysis thus offers evidence for Chomsky's 1995 position that the lowered readings of (1) is not a case of copy-activation, but of literal lowering. It also adds to the evidence adduced by Bruening 1999 and Sauerland 1999 in support of the claim that quantifier movement is subject to Relativized Minimality,[10] thereby strengthening May's original conclusion that scope is to be seen as the result of syntactic movement.

7. Conclusion

To conclude, I have examined in some detail the claim made in Chomsky 1995, and strengthened in Lasnik (1998a,b; 1999) that A-movement does not reconstruct. I have shown that at least Lasnik's position cannot be maintained, and that in many cases A-movement does reconstruct. I have argued that A-movement leaves a full copy (contra Fox 1999a), but that this copy is not what gives rise to lowered readings of quantifiers (see also Chomsky 1995). Rather, the latter are the result of literal lowering.

I have argued that failure to reconstruct in the case of A-movement is the result of the relevant elements' bearing a Case feature, making them uninterpretable in sites other than the one where this Case feature is expunged. I have referred to this fact as the Scope-freezing effect. I have shown that in the case of indefinites, this Case-freezing effect can be obviated by inserting an expletive in the covert component, which frees the quantifier to reconstruct. Such reconstruction operation was shown to be subject to Relativized Minimality effects, which militates for a syntactic treatment of scope assignment (quantifier movement).

References

Aoun, Joseph. 1982. On the logical nature of the binding principles: quantifier lowering, double raising of there and the notion empty element. *Proceedings of NELS 12*, 16-35. UMass., Amherst: GLSA.

Beck, Sigrid. 1996. Quantified structures as barriers for LF-movement. *Natural Language Semantics* 4, 1-46.

Belletti, Adriana, and Luigi Rizzi. 1988. Psych verbs and theta-theory. *Natural Language and Linguistic Theory* 6, 291-352.

Bobaljik, Jonathan, and Diane Jonas. 1996. Subject positions and the role of TP. *Linguistic Inquiry* 27, 195-236.

Boeckx, Cedric. 1999. Scope reconstruction and A-movement. Ms., UConn.

Boeckx, Cedric. In review. Scrambling and last resort: a refinement. Ms., UConn.

[10] Note, incidentally, that the intervention effect of the experiencer argues in favor of LF-raising of the latter (as in Kitahara 1997, where experiencers covertly raise outside of the PP to check features), since the experiencer does not block overt raising. The implications of this study for the status of experiencers are discussed in Boeckx 1999.

Bošković, Željko. 1998. LF-movement and the Minimalist Program. *Proceedings of NELS 28*, 43-57. UMass., Amherst: GLSA.
Bošković, Željko. To appear. Sometimes in situ, sometimes in SpecCP. In *Step by step*, ed. R. Martin, D. Michaels, and J. Uriagereka. Cambridge, Mass.: MIT Press.
Bošković, Željko, and Howard Lasnik. 1999. How strict is the cycle? *Linguistic Inquiry* 30, 691-703.
Bošković, Željko, and Daiko Takahashi. 1998. Scrambling and Last Resort. *Linguistic Inquiry* 30, 347-366.
Brody, Michael. 1995. *Lexico-logical form*. Cambridge, Mass.: MIT Press.
Bruening, Ben. 1999. QR obeys superiority: frozen scope and ACD. Ms., MIT.
Burzio, Luigi. 1981. Intransitive verbs and Italian auxiliaries. PhD., MIT.
Chomsky, Noam. 1986. *Knowledge of Language*. New-York: Praeger.
Chomsky, Noam. 1993. A minimalist program for linguistic theory. In *The view from Building 20*, ed. K. Hale and S. J. Keyser, 1-52. Cambridge, Mass.: MIT Press.
Chomsky, Noam. 1995. Categories and transformations. In Chomsky 1995, *The minimalist program*, 219-394. Cambridge, Mass.: MIT Press.
Chomsky, Noam. 1998. Minimalist inquiries: the framework. MITOPL # 15.
Chomsky, Noam. 1999. Derivation by phase. MITOPL # 17.
Collins, Chris. 1997. *Local economy*. Cambridge, Mass.: MIT Press.
Fox, Danny. 1995. Economy and scope. *Natural Language Semantics* 3, 283-341.
Fox, Danny. 1999a. Reconstruction, binding theory, and the interpretation of chains. *Linguistic Inquiry* 30, 157-196.
Fox, Danny. 1999b. *Economy and semantic interpretation*. Cambridge, Mass.: MIT Press.
Heim, Irene, and Angelika Kratzer. 1998. *Semantics in generative grammar*. Oxford: Blackwell.
Hornstein, Norbert. 1995. *Logical from: from GB to minimalism*. Oxford: Blackwell.
Johnson, Kyle. 1998. Ways of hiding scope. Presented at MIT, October 1998.
Kitahara, Hisatsugu. 1997. *Elementary operations and optimal derivations*. Cambridge: MIT Press.
Kitahara, Hisatsugu. 1998. A note on multiple occurrences. Ms., Keio University.
Kitahara, Hisatsugu. 1999. A derivational theory of scrambling sites. Presented at the 2nd Asian GLOW.
Laka, Itziar. 1990. Negation in syntax. Doctoral dissertation, MIT.
Lasnik, Howard. 1995. A note on pseudogapping. In *MITWPL #27*, 143-163.
Lasnik, Howard. 1998a. Some reconstruction riddles. In *Penn WPL #5*, 83-98.
Lasnik, Howard. 1998b. On a scope reconstruction paradox. Ms., UConn.
Lasnik, Howard. 1999. Chains of arguments. In *Working minimalism*, ed. S. Epstein, and N. Hornstein, 189-215. Cambridge, Mass.: MIT Press.
Lasnik, Howard, and Mamoru Saito. 1991. On the subject of infinitives. *Papers from CLS 27*, 324-43.
Lasnik, Howard. and Mamoru. Saito. 1992. *Move α*. Cambridge. Mass.: MIT Press.
Lebeaux, David. 1988. Language acquisition and the form of the grammar. PhD., UMass., Amherst.
May, Robert. 1977. The grammar of quantification. PhD., MIT.
May, Robert. 1985. *Logical form*. Cambridge, Mass.: MIT Press.
Nissenbaum, Jon. 1998. Movement and derived predicates: evidence from parasitic gaps. In

MIT Working Papers in Linguistics #25, 247-295. Cambridge, Mass.: MITWPL.
Pesetsky, David. To appear. *Phrasal movement and its kin*. Cambridge, Mass.: MIT Press.
Pica, Pierre, and William Snyder. 1994. Weak crossover, scope, and agreement. In *Proceedings of WCCFL 13*, 334-349. Stanford, CA: CSLI.
Postal, Paul. 1974. *On Raising*. Cambridge, Mass.: MIT Press.
Romero, Maribel. 1998. The correlation between scope reconstruction and connectivity. In *Proceedings of WCCFL 16*, 351-166. Stanford, CA: CSLI.
Sauerland, Uli. 1998. The meaning of chains. PhD., MIT.
Sauerland, Uli. 1999. Relativized Minimality effects with QR. Presented at ESCOL '99.
Williams, Edwin. 1984. There-insertion. *Linguistic Inquiry* 15, 131-152.
Zanuttini, Raffaela. 1997. *Negation and clausal structure*. Oxford: Oxford University Press.

Department of Linguistics, U-1145
University of Connecticut
Storrs, CT 06269-1145
USA

ceb99001@sp.uconn.edu